Benoxacor

4-(dichloroacetyl)-3,4-dihydro-3-methyl-2H-1,4-benzoxazine

Benoxacor is an inert ingredient (safener) in herbicide formulations containing metolachlor. These formulations are used on greenhouse flowers and on corn, soybeans, peanuts, sorghum, and cotton. Exposures may occur in the occupational setting, and through consumers' handling of treated flowers and consumption of treated food crops.

Benoxacor passed the animal data screen, underwent a preliminary toxicological evaluation, and is being brought to the Carcinogen Identification Committee for consultation. This is a compilation of the relevant studies identified during the preliminary toxicological evaluation.

Epidemiological data

No cancer epidemiology studies were identified.

Animal carcinogenicity data

- Long-term dietary studies in rats
  - Two-year studies in male and female Crl:CD BR rats: U.S. EPA (1997)

- Long-term dietary studies in mice
  - 18-Month studies in male and female CD-1 mice: U.S. EPA (1997)

Other relevant data

- Genotoxicity
  - *Salmonella* assay for gene mutations: U.S. EPA (1997, p. 15)
  - Chinese hamster V79 mutation assay: *ibid*
  - *In vitro* rat hepatocyte assay for unscheduled DNA synthesis: *ibid*
  - *In vivo* Chinese hamster assay for clastogenicity: *ibid*

- Forestomach tumors: IARC (1999)

Reference[1]

International Agency for Research on Cancer (IARC, 1999). *Predictive Value of Rodent Forestomach and Gastric Neuroendocrine Tumours in Evaluating Carcinogenic Risks to Humans*. IARC Technical Publication No. 39, pp. 1-17. IARC, World Health Organization, Lyon, France.

[1] Copies of these listed references, as either the abstract, the relevant sections of the publication, or the complete publication, have been provided to members of the Carcinogen Identification Committee. These references have been provided in the order in which they are discussed in this document.

U.S. Environmental Protection Agency (U.S. EPA, 1997). *Memorandum: Carcinogenicity Peer Review of Benoxacor*. Office of Prevention, Pesticides and Toxic Substances, July 22, 1997.